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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/020,292	12/18/2001	Kiyoshi Yamamoto	P21410	8090
7055	7590	10/21/2004	EXAMINER	
GREENBLUM & BERNSTEIN, P.L.C. 1950 ROLAND CLARKE PLACE RESTON, VA 20191			PARSONS, CHARLES E	
			ART UNIT	PAPER NUMBER
			2613	

DATE MAILED: 10/21/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/020,292

Applicant(s)

YAMAMOTO, KIYOSHI

Examiner

Charles E Parsons

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☐ Claim(s) ____ is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-3, 8-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Liskow in view of Kushida.

- 3.

Claim 1: An electronic endoscope provided with three-dimensional image capturing device, comprising:

a housing; (See Liskow figure 1, item 12 is a housing.)

a distance-measuring light source that outputs a distance-measuring light beam, which is a pulsed light beam and which is irradiated to a subject so that a first reflected light beam is generated by said subject; (See Liskow figure 1 item 64 as well as column 11 lines 42-45, stroboscopic light is pulsed.)

a distance-measurement imaging device that receives said first reflected light beam to accumulate electric charges in accordance with the received amount of said first reflected light beam; See Liskow column 10 line 47 through column 11 line 13)

a three-dimensional image sensing processor that controls the accumulating operation of said distance-measurement imaging device, to generate electric charges corresponding to a three-dimensional image of said subject. (See Liskow column 13 lines 13-46 as well as column 14 lines 15-28.)

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a flexible tube that is connected to said housing, and that has an optic fiber along which at least one of said distance-measuring light beam and said first reflected light beam is transmitted; (See Liskow column 11 lines 23-27 wherein he teaches that his invention could be used in an endoscope. At the time the invention was made, it was well known in the art that endoscopes comprised flexible optic fibers for insertion into human bodies see Kushida column 3 lines 23-30. Therefore it would have been obvious to one of ordinary skill in the art to use Liskows invention in an endoscopic device motivated by his teaching that it could be used in that manner.)

Claim 2, 9: An electronic endoscope according to claim 1, wherein said distance-measuring light source is provided in said housing. (Liskows light source is within the housing see figure 1.)

Claim 3: An electronic endoscope according to claim 2, wherein said distance-measurement imaging device is provided in said housing. (According to claim 1 the CCD is the imaging device. Liskows CCD is contained in the housing shown in figure 1.)

Claim 8. An electronic endoscope according to claim 1, further comprising an illuminating light source that continuously irradiates an illuminating light beam to said subject so that a second reflected light beam is generated by said subject, and a two-dimensional image-sensing imaging device that receives said second reflected light beam, to sense a two-dimensional image of said subject. (See Liskow figure 3 items 74, 78 and 80. A second 2D image is created for viewing. See also Kushida column 4 lines 63-68 allowing for an additional light.)

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10. An electronic endoscope according to claim 8, wherein said two-dimensional image-sensing imaging device is provided in said housing. (See Liskow figures 3 and 4. The CCD is contained within the housing.)

1. Claim 4-7, 11, 12 rejected under 35 U.S.C. 103(a) as being unpatentable over Liskow and Kushida as applied to claim 1 above, and further in view of Malek.

Claim 4: An electronic endoscope according to claim 1, wherein said three-dimensional image-sensing processor controls the accumulating operation in accordance with the length of said optic fiber. (While Liskow is silent as to controlling the processor in accordance with the length of the optical fiber, at the time the invention was made it was well known in the art that a 3D image can be made by detecting the variations in the time it takes light to reflect back to a CCD. See Malek figure 3 and column 7 lines 42 through column 8 line 65. Furthermore, it was well known that the time it takes for the light to propagate back to a CCD via a fiber optic tube is dependent upon the length of the fiber. See Kushida column 3 lines 30-62. Thus in order to get an accurate range to the target, a person of ordinary skill in the art would have known at the time the invention was made, that the length of the tube must be taken into account. Therefore it would have been to configure the image sensing processor in accordance with the length of the optical fiber, motivated by both Malek and Kushida that the distance to the target can be derived from the amount of time it takes for reflected light to propagate back to the CCD.)

5. An electronic endoscope according to claim 4, further comprising an illuminating light source that outputs an illuminating light beam, and a light-transmitting optical element that leads said distance measuring light beam and said illuminating light beam to said optic fiber,

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said distance-measuring light source and said illuminating light source being disposed so as to face said light-transmitting optical element. (In order for a CCD to capture an image it must face the subject, See figure 1 of Liskow, since the light reflected from the subject is being propagated through a fiber it is obvious that the CCD would face the source of the reflected light.) Official notice served

6. An electronic endoscope according to claim 5, further comprising a light-receiving optical element disposed in such a manner that said first reflected light beam, output from said optic fiber enters said light-receiving optical element, said distance-measurement imaging device, and a two-dimensional image-sensing imaging device being disposed so as to face said light-receiving optical element. (See Liskow figure 4.)
7. An electronic endoscope according to claim 4, wherein said three-dimensional image sensing processor controls the accumulating operation in such a manner accumulating operation that a timing of the is delayed depending on the length of said optic fiber. (See Kushida figure 2)
- 11: An electronic endoscope according to claim 8, wherein said optic fiber comprises a light-transmitting optic fiber that irradiates said distance-measuring light beam and/or said illuminating light beam on said subject and a light-receiving optic fiber that receives said reflected light beam generated by said subject. (See Kushida figure 1)
12. An electronic endoscope according to claim 11, wherein said flexible tube is provided with a memory in which information indicating the length of each of said light-transmitting optic fiber and said light-receiving optic fiber is stored. (Since it has already been established that the length of the fiber optic tube must be known, it would have been obvious to

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include a memory means which stores the length of the flexible tube so that the imaging means can retrieve the necessary information in order to make the distance calculation to the target.) Official notice served

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Charles E Parsons whose telephone number is 703-305-3862. The examiner can normally be reached on M-TH 7AM to 5 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chris Kelley can be reached on 703-305-4856. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

CEP


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